EMV401 / 801 / 1601 Hybrid Mobile DVR
4 / 8 / 16CH, H.264, Real Time at D1/WD1/1080P

Quick Installation Guide

EverFocus®

1.   Introduction

The latest EverFocus hybrid digital video recorder generation is based on H.264 compression technology, resulting in enhanced recording capacity and improved network image transmission speed with high image quality.

The hybrid mobile DVR EMV401 / 801 / 1601 can support 4 / 8 / 16 channels in combination of analog and IP cameras, (EMV1601 supports maximum 8 channels of IP cameras). EMV401 / 801 / 1601 can deliver and record at real-time WD1 resolution of each analog camera and real-time 1080p resolution of each IP camera.

Its comprehensive features along with the embedded 3-axis g-sensor function enable the almost universal application of this mobile DVR series. With EMV401 / 801 / 1601, you can install either one 3.5"hard disk or one 2.5" hard disk as an option. It supports various interfaces such as three USB ports / RS-485 / RS-232 / Panic Button / CAN bus / GPS, 3G, 4G and Wi-Fi Antenna. The design of RCA video/audio outputs at front panel makes your installation easy. The User Interface has been specially designed to fit mobile small-sized monitor.

EMV401 / 801 / 1601 are anti-shock and vibration due to the Molex connectors equipped. The power supply supports voltage regulator, and delay on/off. In addition, EMV401 / 801 / 1601 can be equipped with an explosion-proof black box to keep the last minute recording clip for testimony.

System Requirements

Before installing, please check that your computer meets the following system requirements.

Operating System	Windows XP (32-bit) / Win7 (32 and 64-bit)
CPU	Intel Core 2 Duo, 2.6GHz
RAM	2GB
VGA	AGP or PCI-Express, 800x600 (1280x1024 recommended), 32-bit color
LAN Speed	10 / 100 / 1000 Mbps (RJ45)
Web Browser	Windows (IE 8, 9, 10, Chrome, Firefox), MAC (TBD)
Other Remote Application	1. EverFocus' CMS: Genie XMS xFleet (Server System) and EF xFleet Lite (Windows AP) 2. EverFocus' mobile app: MobileFocus for iOS and Android devices MobileFocusHD for iPad

Packing List

- EMV401 / 801 / 1601 Hybrid Digital Video Recorder x 1
- HDD Tray (with 2 keys and 8 screws for 3.5" HDD, 6 screws for 2.5" HDD) x 1
- Z-Type Bracket   x 2
- Long Screw (with 4 washers) x 4
- Short Screw (with 4 washers) x 4
- IR Remote Control (with two AAA batteries) x 1
- Power Harness Cable x 1
- Video Cable x 4 (EMV1601); x2 (EMV801); x1 (EMV401)
- Audio Cable x 4 (EMV1601); x2 (EMV801); x1 (EMV401)
- Alarm Cable x 1
- RS232/485 Cable x 1
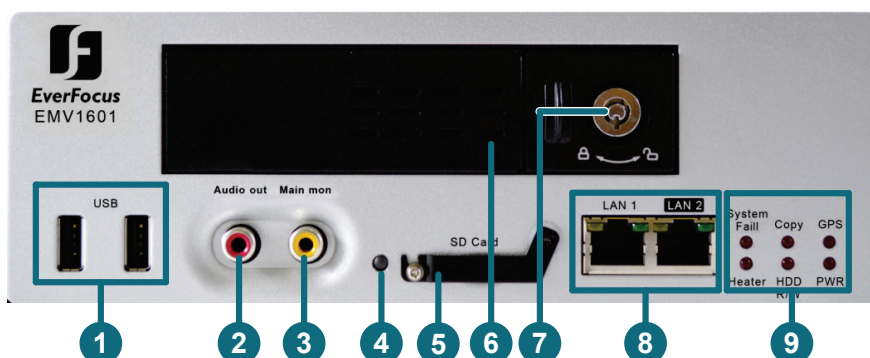- CD x 1 (Please see Note 3.)
- Quick Installation Guide x 1

Note:
1. Equipment configurations and supplied accessories vary by country. Please consult your local EverFocus office or agents for more information. Please also keep the shipping carton for possible future use.
2. Contact the shipper if any items appear to have been damaged in the shipping process.
3. The CD contains the IP Utility software, User Manual and Quick Installation Guide.
4. Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
   a. Use only two AAA dry cell batteries.
   b. Do not dispose of the batteries in a fire as it may explode.
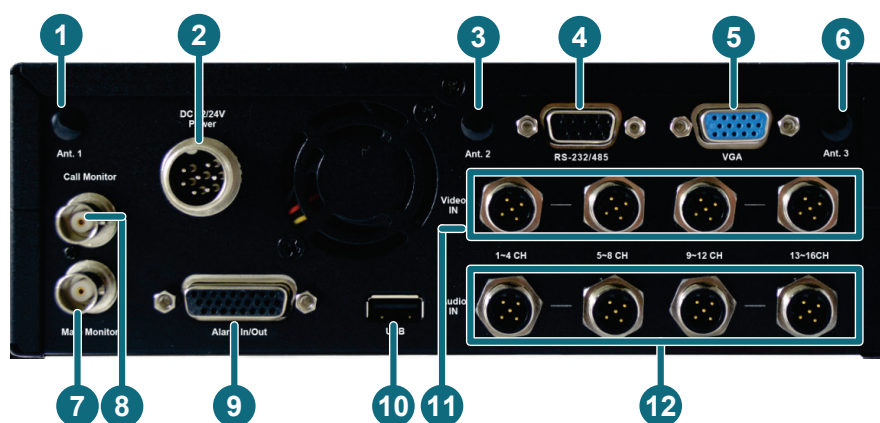
Optional Accessories

- 3G Receiver: For using 3G network function.
- 4G Receiver: For using 4G LTE network function.
- GPS Receiver: For using GPS function.
- Wi-Fi Antenna: For using Wi-Fi function.

Front Panel

No.	Name	Description
1	**USB2.0 Port**	Two USB2.0 ports for connecting to the 3G USB dongle, USB storage device or mouse.
2	**Audio Out**	RCA audio output for connecting to the speakers. The audio output only works during playback.
3	**Main Monitor**	RCA video output for connecting to a monitor for live view, playback and displaying OSD. **Note** this mobile DVR has two Main Monitor outputs (one on the front panel and the other on the rear panel). All of the Main Monitor ports can be connected simultaneously.
4	**IR Receiver**	Receives data from the infrared remote control.
5	**SD Card (TBD)**	Insert a SD card for data storage. **It is currently reserved.**
6	**HDD Drive Tray**	Installs a 3.5" or 2.5" HDD for recording.
7	**HDD Key Lock**	Locks and unlocks the HDD tray.
8	**Ethernet Port**	Two RJ-45 ports for connecting to the network. It's recommended to use LAN 1 for connecting to the IP cameras via a hub or switch, and use LAN 2 for WAN connection.
8	**System LEDs**	• **GPS LED:** Turns on when the mobile DVR is receiving the GPS data. • **Power LED:** Turns on when the power is supplied. • **Copy LED:** Turns on when the mobile DVR is archiving data to the USB storage device. • **HDD R/W LED:** Turns on when the HDD is reading or writing. • **System Fail LED:** Turns on when these events occur: HDD Full / Fan Fail / HD Temperature. • **Heater LED:** Turns on when the mobile DVR is overheating.

![EverFocus logo]

Rear Panel

No.	Name	Description
1	**Antenna 1 (3G/4G)**	Connects to the 3G or 4G Receiver for using 3G / 4G LTE function.
2	**DC Power Input**	Power harness cable for connecting to 12 VDC ~ 24 VDC power source. For details, please refer to *2.4.1 Power Harness Cable* of the User's Manual.
3	**Antenna 2 (GPS)**	Connects to the GPS Receiver for using GPS function.
4	**RS-232/485**	Connects to RS-232 (CAN bus) or RS-485 device (such as analog PTZ cameras), please refer to *2.4.5 RS-232 / RS-485 cable* of the User's Manual.
5	**Main Monitor (VGA)**	VGA video output for connecting to the main monitor for live view, playback and displaying OSD.
6	**Antenna 3 (Wi-Fi)**	Connects to the Wi-Fi antenna for using Wi-Fi function.
7	**Main Monitor (BNC)**	BNC video output for connecting to the main monitor for live view, playback and displaying OSD. **Note** this mobile DVR has 3 Main Monitor outputs (one on the front panel and the other 2 on the rear panel). All of the Main Monitor ports can be connected simultaneously.
8	**Call Monitor (BNC)**	BNC video output for connecting to the call monitor for displaying the live view.
9	**Alarm In / Out**	D-Sub connector for connecting to the supplied Alarm Cable. For details, please refer to *2.4.4 Alarm Cable* of the User's Manual.
10	**USB2.0 Port**	USB2.0 ports for connecting to the 3G USB dongle, USB storage device or mouse.
11	**Video Input**	M12 connector for connecting to the supplied Video Cable. For details, please refer to *2.4.2 Video Cable* of the User's Manual.
12	**Audio Input**	M12 connector for connecting to the supplied Audio Cable. For details, please refer to *2.4.3 Audio Cable* of the User's Manual.

2.   Getting Started

2.1   Installation

Before installation, choose a location in the vehicle where it can:

- Provide convenient access for installing or removing the hard disk
- Allow air to flow around the fan vents. Inadequate or improper air flow can impede proper operation of the hybrid mobile DVR

Please **avoid** installing the hybrid mobile DVR to the following locations in the vehicle:

- That is subject to high vibration / sunlight levels
- That is subject to be drenched of the rain
- Where passengers can interfere with the hybrid   mobile DVR
- Next to a heater duct

The following table lists the recommended location options in the vehicle:

Location	Convenient Operation	Easy to Install	Low Vibration	Good Air Flow
Bottom of glove box- horizontal mount	Yes	Yes	Yes	Yes
Bottom of passenger seat next to the driver	**No**	Yes	Yes	Yes
Underneath bulkhead-horizontal mount	Yes	Yes	**No**	Yes
Front of bulkhead-horizontal mount	Yes	Yes	Yes	Yes
Beside deriver seat-horizontal mount	Yes	Yes	Yes	Yes

Note: Do not install the hybrid mobile DVR on the floor or on the transmission access hatch. These locations have the highest levels of vibration and may be subject to water damage.

2.1.1   Mounting

The EMV401 / 801 /1601 can be mounted horizontally. Two mounting types are available: **Support-Mount** and **Suspend-Mount**.

Support-Mount   Suspend-Mount
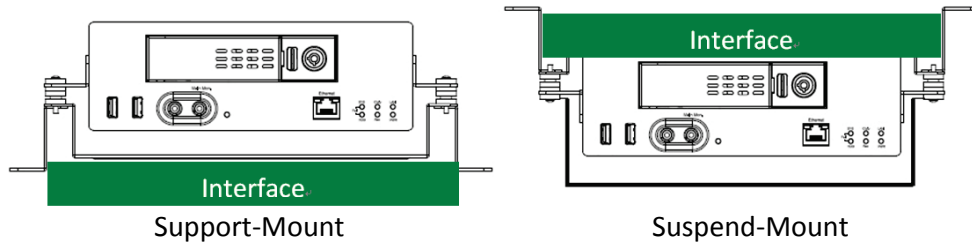
To install the L-type brackets to the hybrid mobile DVR for mounting:

1. Attach the supplied two L-Type Brackets to the Fixing Bracket on the hybrid mobile DVR. Use the supplied four short screws with washers to screw the L-Type Brackets to the Fixing Bracket.

Fixing Bracket   L-Type Bracket
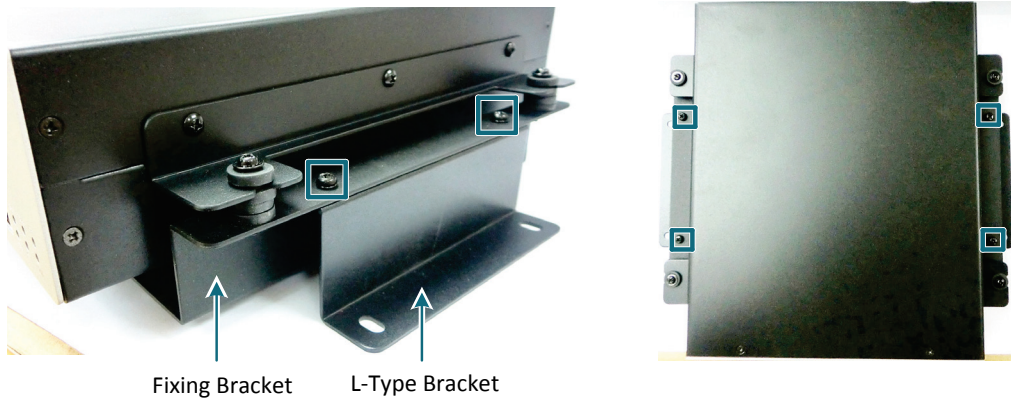
2. Screw the hybrid mobile DVR to the interface using the supplied four Long Screws with washers.

2.2   Hard Disk Installation

The EMV401 / 801 / 1601 supply with a 3.5" HDD tray for inserting a Hard Disk for video recordings. Please follow the steps below to install the Hard Disk.

Note:
1. If you want to use a 2.5" HDD, make sure to use the supplied 2.5" HDD tray screws to secure the HDD to the HDD tray.
2. The EMV401 / 801 / 1601 does not support hot swap for the hard disk. Ensure to power off the hybrid mobile DVR before removing the hard disk. Also ensure to remove the hard disk only after the power was completely shut off. This would protect and extend the operating life of the hard disk.

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1. Make sure the hybrid mobile DVR is power-off.
2. Place the hard disk in the HDD tray, secure the HDD with the supplied HDD Screws (8 for 3.5" HDD and 6 for 2.5" HDD) on the bottom of the HDD tray.

3. Insert the HDD tray to the hybrid mobile DVR.

4. Push the Latch to fasten it to the HDD tray.

5. Lock the HDD tray using the supplied key.

Locked

Unlocked
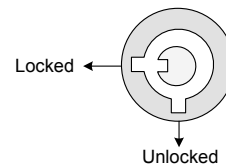
6. To remove the HDD tray, slightly push the Lock Clip to loosen the Latch of the HDD tray.
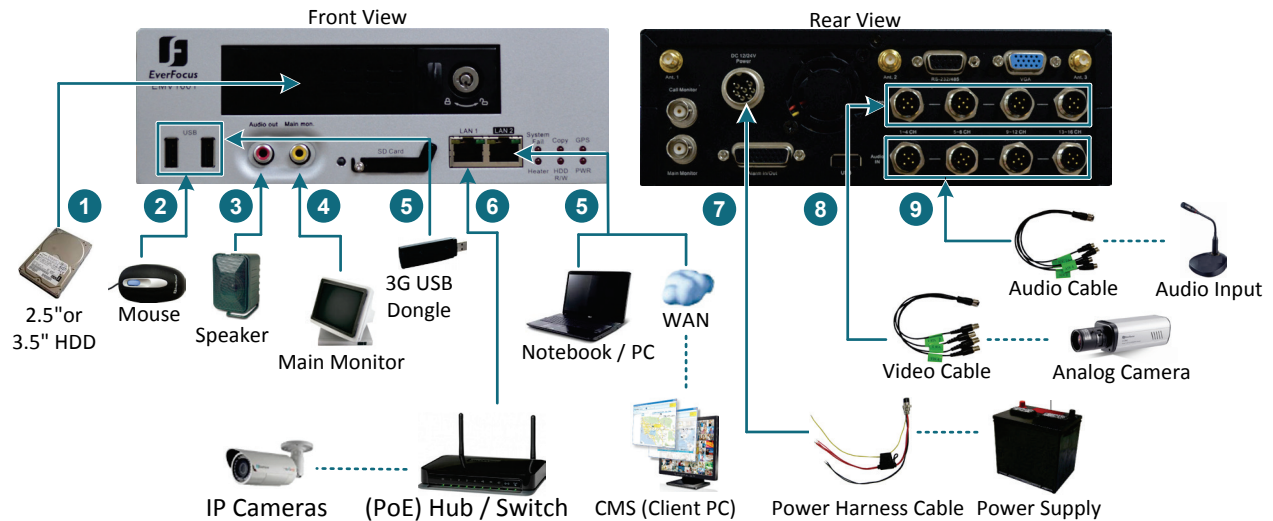
Latch　　　　Lock Clip
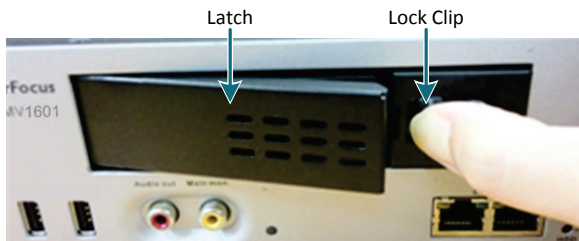
7. Pull out the HDD tray.

Hard Disk Tray
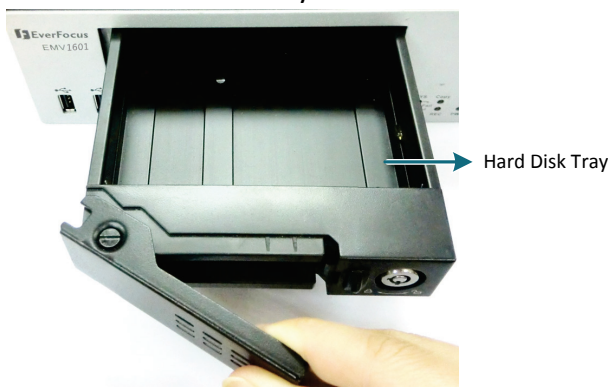
3. Basic Connection

After installing the EMV401 / 801 / 1601 in the vehicle, you can start connecting the hybrid mobile DVR to the external devices. The instructions below describe the basic connection to the EMV401 / 801 / 1601. For details on cable connections, please refer to the following sections.

1. To record videos, insert a 2.5" or 3.5" HDD to the HDD tray. Remember to lock the HDD Key Lock after inserting the HDD or the recording will not start (see *2.2 Hard Disk Installation*).

2. To control the system, connect a mouse to the hybrid mobile DVR or use the supplied IR Remote Control.

3. To listen to audio of video source, connect a speaker to the Audio-out RCA socket. Note that the speaker with a (built-in) amplifier and external power is required.

4. To view videos, connect a monitor to the RCA port using the RCA cable supplied by the monitor manufacturer. You can also connect other video out ports, please refer to *2.5 Monitor Connection* of the User's Manual.

5. To manage the hybrid mobile DVR over network:

   a. Use a standard RJ-45 cable to connect the hybrid mobile DVR to the network.

   b. Connect a 3G USB dongle to the USB port on the hybrid mobile DVR. For details on 3G wireless network settings, please refer to *6.6.3 Mobile* of the User's Manual.

6. You can optionally connect a (PoE) switch / hub to the LAN1 port of the hybrid mobile DVR using a standard RJ-45 Ethernet cable for connecting the IP cameras.

7. Connect the supplied Power Harness Cable to the power supply in the vehicle for powering the hybrid mobile DVR and the connected cameras. For details on vehicle connection, please refer to *2.3 Vehicle Connection* of the User's Manual.

8. Connect the cameras to the hybrid mobile DVR using the supplied Video Cable.

9. Connect the audio input devices to t*he hybrid mobile DVR u*sing the supplied Audio Cable

4. Accessing the NVR

You can look up the IP address and access the Web interface of the hybrid mobile DVR using the **IP Utility (IPU)** program, which can be downloaded from EverFocus' Website: http://www.everfocus.com/HQ/Support/DownloadCenter_p1.aspx. Please connect the hybrid mobile DVR in the same LAN of your computer.

1. Save **IP Utility Setup AutoRun.exe** in your computer. Double click the .exe file and follow the on-screen instructions. Check **Run IPUtility.exe** and click the **Finish** button, the IP Utility will be launched to search the IP devices connected in the same LAN automatically.
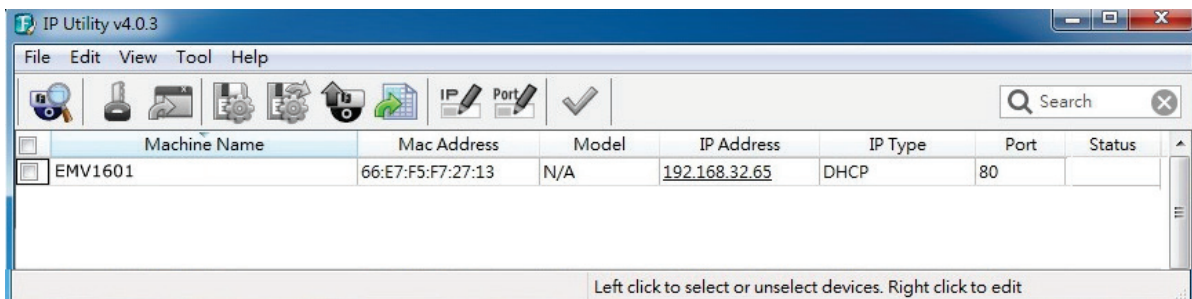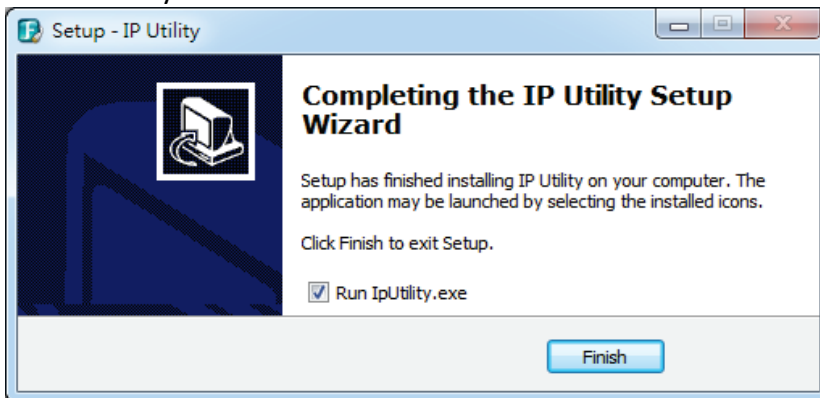
2. To optionally configure the Machine Name, IP Address, IP Type or Port Number using the IPU:

    a. Log in the hybrid mobile DVR by checking the desired model and then click the **Log in** icon. The Log in dialog box appears.
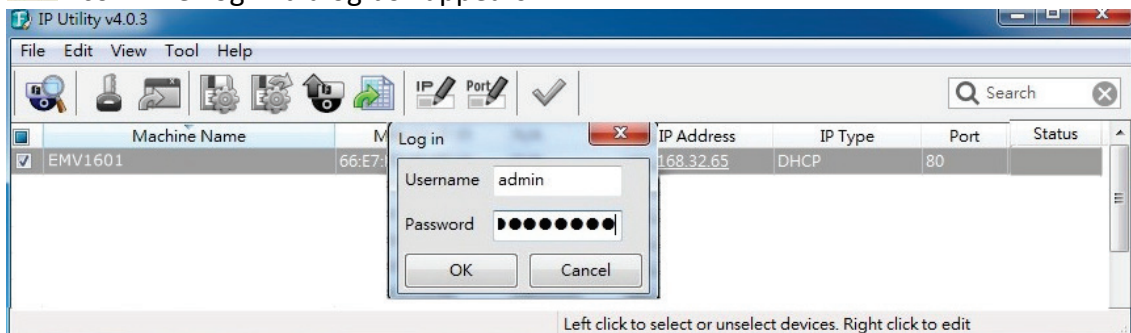
b. Type the Username and Password. Click the **OK** button, the status of the selected camera will display **Login**.

|	Machine Name	Mac Address	Model	IP Address	IP Type	Port	Status
☑	EMV1601	66:E7:F5:F7:27:13	N/A	192.168.32.65	DHCP	80	Login

> **Note:**
> 1. The default user ID is **admin** and the default password is **11111111**.
> 2. If you select more than one hybrid mobile DVRs that have the same user ID / password, you will be able to log in several hybrid mobile DVRs at once.

c. Right click the column to configure the setting. Click **Apply Changes** ✓ button to apply and save the settings.
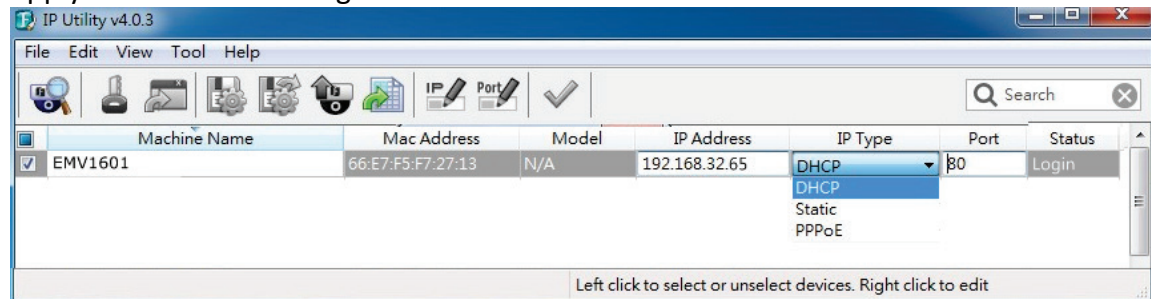
> **Note:** Most networks uses DHCP to assign IP address, if you are unsure of your network settings, please consult your network administrators for configuration details.

3. To access to the Live View window, double click the IP address of the desired device, the login window pops up. Type the user ID and password to log in. By default, the user ID is **admin** and the password is **11111111**.
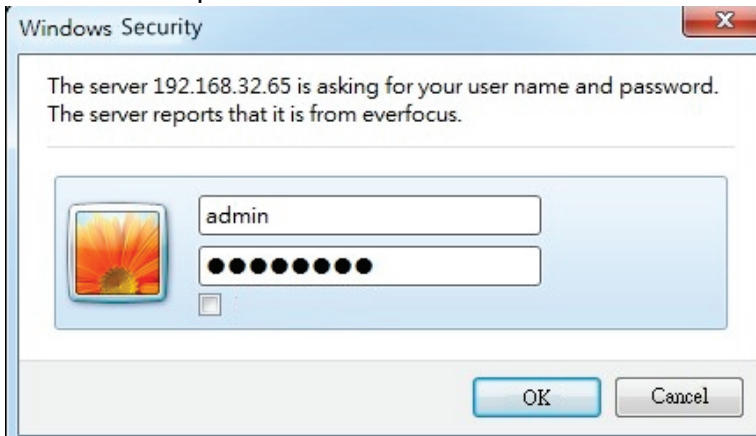
4. When first connecting to the hybrid mobile DVR's IP address, the following dialog will appear. Please check the box and click the **Run** button to run the EverFocus Viewer application.

5. You might be required to download **ActiveX** and **JAVA software** for viewing the camera feed. If asked, click **Yes**. For more details, please refer to *6.1 Installing ActiveX Controls*.

6. You may need to turn **User Account Control** off if you still can't see the Remote Live View.

7. On the computer, click Start > Control Panel > System and Security > Action Center (click Change User Account Control Settings), the **User Account Control Settings** window appears. Adjust the slide bar to **Never Notify** and then click **OK**. Restart your computer if requested.
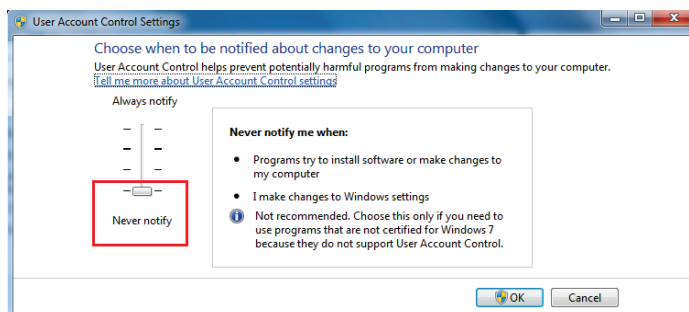
8. If your PC or laptop is running with Windows, it's required to run the browser as administrator when first entering the remote web page of the device. Go to **C:\Program Files (x86)\Internet Explorer**, right-click the browser and then click **Run as administrator**.
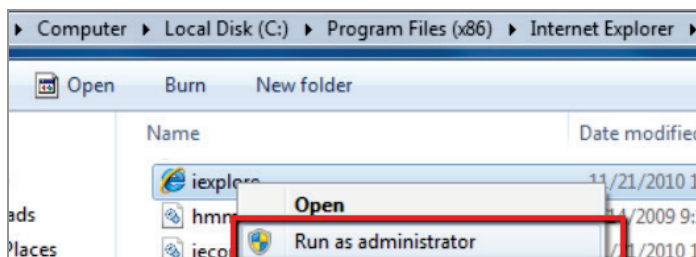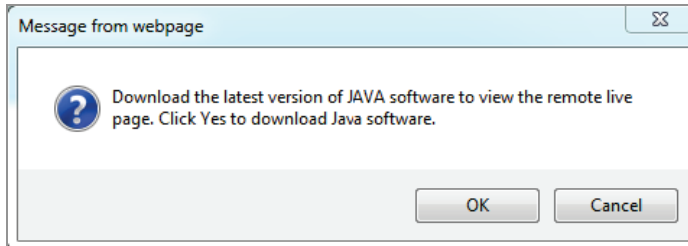

9. Now you will be able to see the remote live page.

5. Installing JAVA Runtime

You need to install the latest JAVA software for stable operation.

1. When first connecting to the NVR's IP address, the following dialog will show up if you didn't install the JAVA software or its latest version on your computer.


2. Please click **Update** to go to the JAVA website http://www.java.com/en/, and download the latest version of the JAVA software.

3. Please go to the Control Panel > JAVA Control Panel to change settings.

4. If you can't find the JAVA in the Control Panel, please go to Program Files > Java > jre7 > bin and double-click the **javacpl** (JAVA Control Panel).

5. Click **Advanced** tap on the top of the window, and scroll to "Mixed code (sandboxed vs. trusted) security verification", and select the **Enable – hide warning and run with protections**.
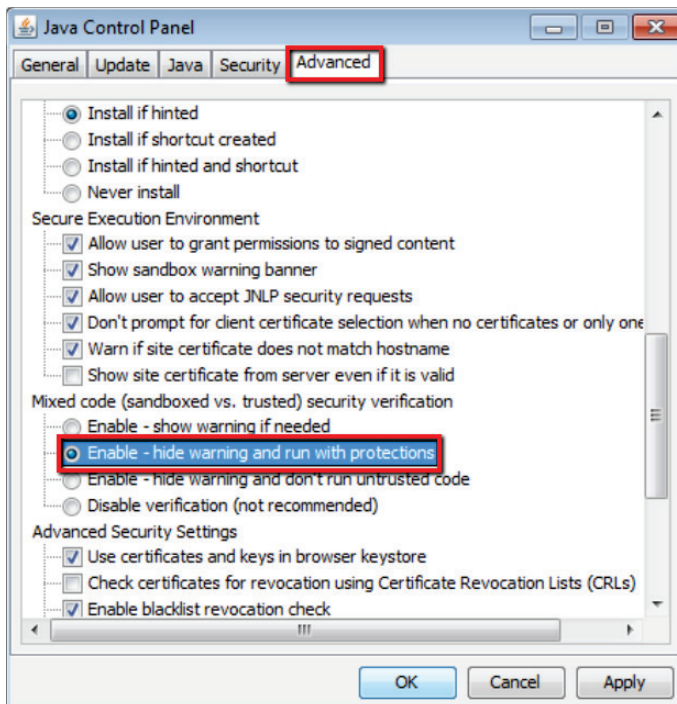
6. Scroll to "Check for certificate revocation using", and select the **Online Certificate Status Protocol (OCSP)**. Also, check **Place JAVA icon in system tray** in "Miscellaneous" option.
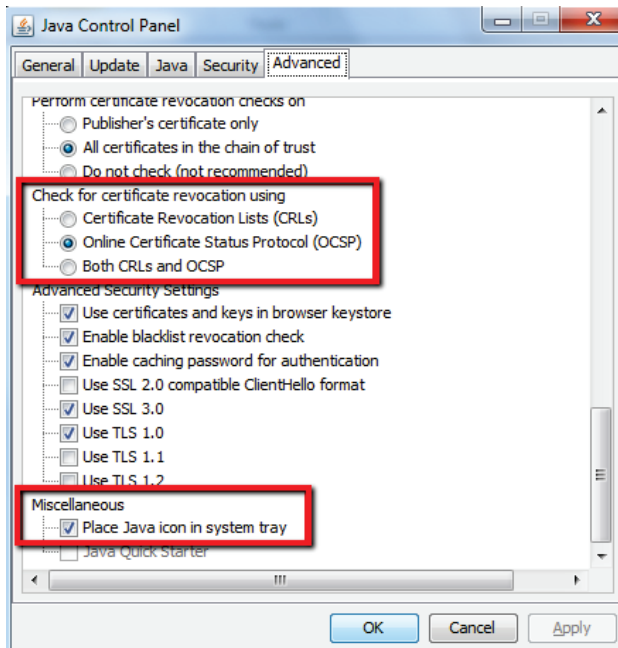
7. Scroll to "Default JAVA for Browser" and check **Mozilla family**.
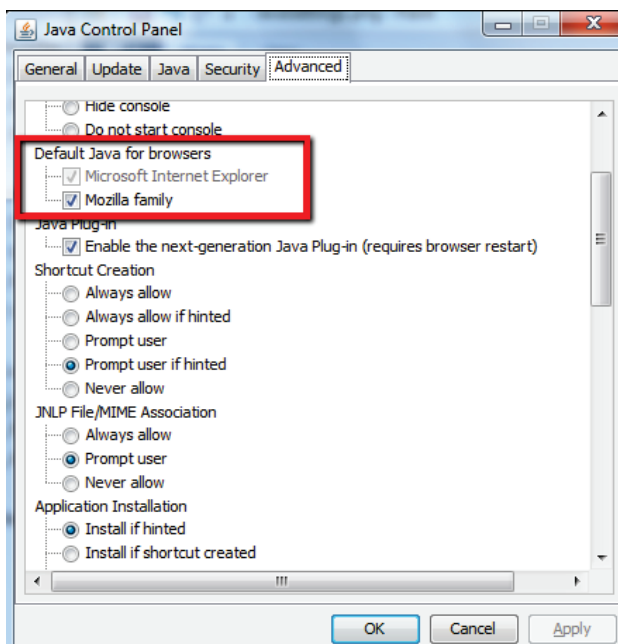
8. Connect the NVR's IP address again and the yellow bar may pop up on the top of the window. Please click it to run the JAVA application.

6. Browser Security Setting

6.1 Installing ActiveX Controls

Follow the steps below to install the ActiveX Controls when you first connect to the NVR's IP address. If you do not see the images below, your security settings may be too high. If so, go to "Section *6.2 Enabling ActiveX Controls*."

1. You may also prompt to install the MSXML file. Please right-click the yellow bar and select "Run Add-on…"

2. Install the MSXML file when prompted to do so.


3. Now you will be able to see the remote live page.

4. Please refer to *4. Accessing the NVR* to adjust the settings of the **User Account Control** if you still can't see the remote live view.
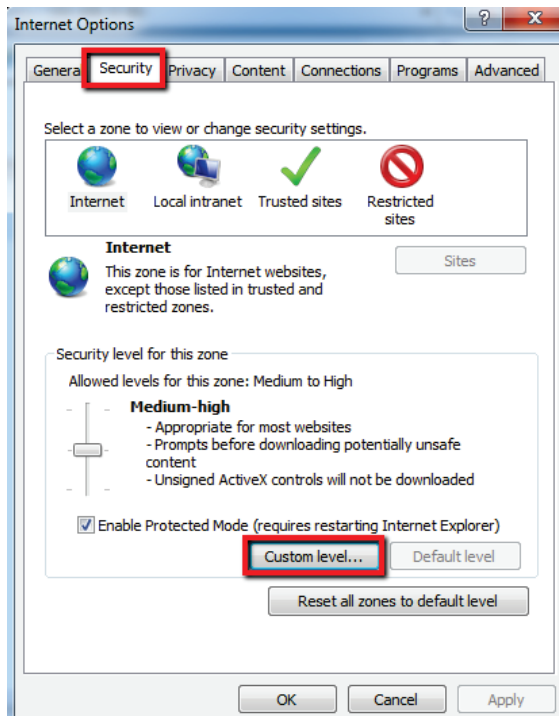
6.2 Enabling Active Controls

Note this section is only necessary if you DO NOT see the image in step 1 of the 6.1 Installing ActiveX Controls popping up when you first connect to the NVR.
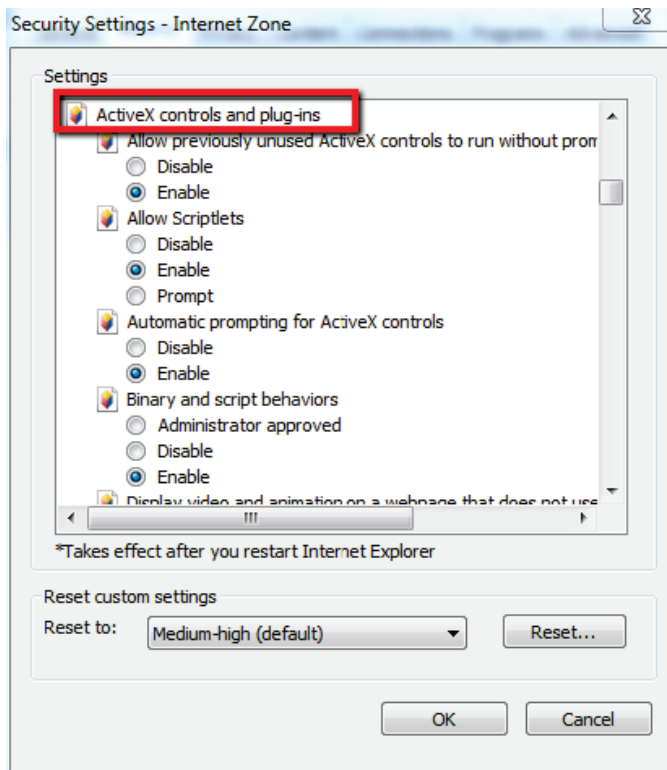
1. At the top of the Internet Explorer Window, click on **Tools** and then select **Internet Options**.
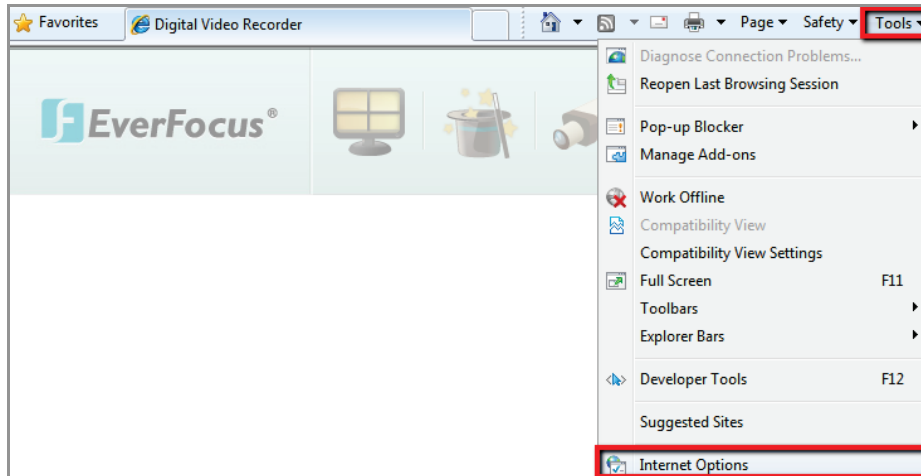
2. Click the **Security** tab at the top of the window and then click **Custom Level...**.

3. In the Security Settings window, scroll to "ActiveX controls and plug-ins".

Set the controls as follows:

"**Enable**":
- ✓ Allow previously unused ActiveX controls to run without prompt (*Internet Explorer 7 only*)
- ✓ Allow scriptlets (IE7 only)
- ✓ Automatic prompting for ActiveX controls
- ✓ Binary and script behaviors
- ✓ Display video and animation on a webpage that does not use external media player (*IE7 only*)
- ✓ Run ActiveX controls and plug-ins
- ✓ Script ActiveX controls marked safe for scripting
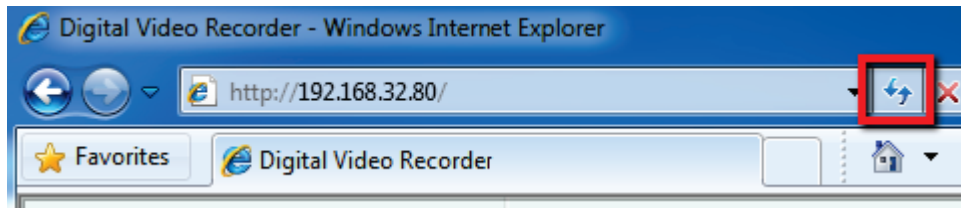
"**Prompt**":
- ✓ Download signed ActiveX controls
- ✓ Download unsigned ActiveX controls

"**Disable**":

Initialize and script ActiveX controls not marked as safe

4. Click **OK** and then choose **Yes** to change the security settings.

5. Close the window so you are back at the login screen.
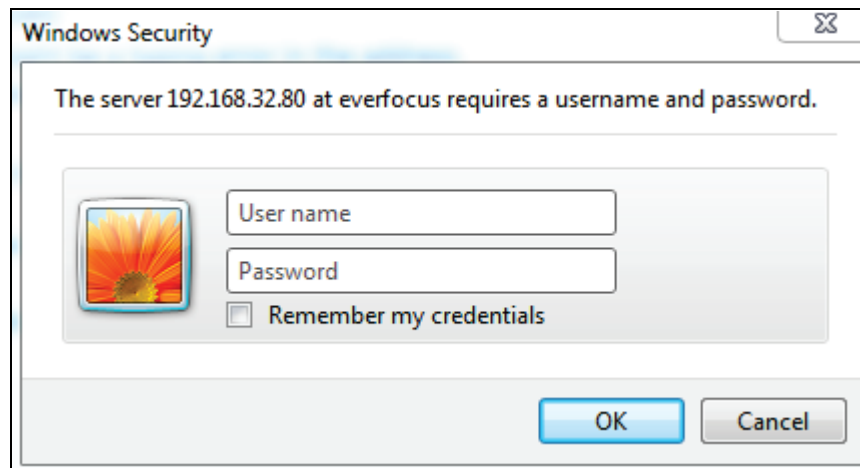
6. Click the **Refresh** button to reload the page.

7. You may need to run the EverFocusViewer application when prompted to do so.

8. The login page will show up. Type in the user name and password and click Login to view the cameras. The default User Name is **admin**, while the password is **11111111**.

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Your EverFocus product is designed and manufactured with high quality materials and components which can be recycled and reused.
This symbol means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from your household waste.
Please, dispose of this equipment at your local community waste collection/recycling centre.
In the European Union there are separate collection systems for used electrical and electronic product.
Please, help us to conserve the environment we live in!

Ihr EverFocus Produkt wurde entwickelt und hergestellt mit qualitativ hochwertigen Materialien und Komponenten, die recycelt und wieder verwendet werden können.
Dieses Symbol bedeutet, dass elektrische und elektronische Geräte am Ende ihrer Nutzungsdauer vom Hausmüll getrennt entsorgt werden sollen.
Bitte entsorgen Sie dieses Gerät bei Ihrer örtlichen kommunalen Sammelstelle oder im Recycling Centre.
Helfen Sie uns bitte, die Umwelt zu erhalten, in der wir leben!

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